

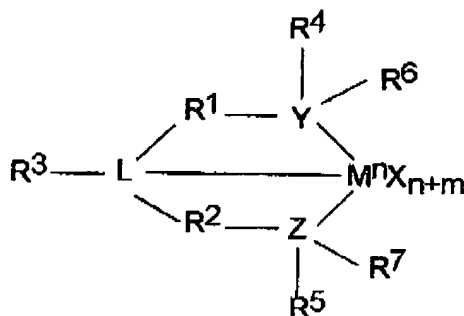
Application No.: 10/777,563
 Response dated: July 28, 2006
 Reply to Office Action: February 2, 2006

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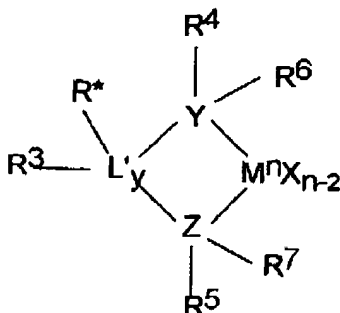
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A process for polymerizing olefin(s) comprising combining said olefin(s) in the presence of a catalyst system comprising a Group 15 containing bidentate or tridentate ligated metal catalyst compound, wherein the process is conducted at a temperature from between 50° C to 200° C, and wherein the catalyst compound is represented by the formulae:



or



wherein M is metal;

each X is an aryl substituted alkyl leaving group;

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y is 0 or 1;

n is the oxidation state of M;

m is the formal charge of Y, Z and L or of Y, Z, and L';

L is a Group 15 element;

L' is a Group 15 element or Group 14 containing group;

Y is a Group 15 element;

Z is a Group 15 element;

R¹ and R² are independently a C₁ to C₂₀ hydrocarbon group, a heteroatom containing group having up to twenty carbon atoms, silicon, germanium, tin, lead, or phosphorus;

R³ is absent, a hydrocarbon group, hydrogen, a halogen, or a heteroatom containing group;

R⁴ and R⁵ are independently an alkyl group, an aryl group, a substituted aryl group, a cyclic alkyl group, a substituted cyclic alkyl group, a cyclic arylalkyl group, a substituted cyclic arylalkyl group or a multiple ring system;

R¹ and R² may be interconnected to each other, and/or R⁴ and R⁵ may be interconnected to each other;

R⁶ and R⁷ are independently absent, hydrogen, an alkyl group, halogen, heteroatom or a hydrocarbyl group; [and]

R^{*} is absent, hydrogen, a Group 14 atom containing group, a halogen, or a heteroatom containing group; and

wherein said Group 15 containing bidentate or tridentate ligated metal catalyst compound is added to a polymerization reactor in one of a slurry, a solution, an emulsion, a dispersion or a suspension.

2. (Original) The process of claim 1 wherein R¹ and R² are selected from the group consisting of a C₁ to C₂₀ hydrocarbon group, a heteroatom containing group, silicon, germanium, tin, lead, and phosphorus.
3. (Original) The process of claim 1 wherein L or L' may also be bound to nothing, a hydrogen, a Group 14 atom containing group, a halogen, or a heteroatom containing group, and wherein each of the two Group 15 atoms are also bound to

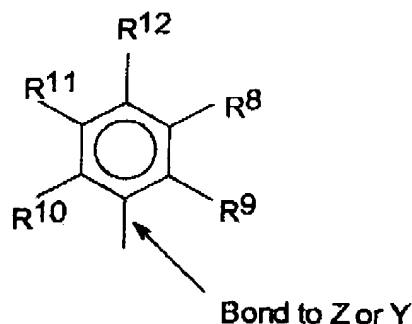
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a cyclic group and may optionally be bound to hydrogen, a halogen, a heteroatom, a hydrocarbonyl group, or a heteroatom containing group.

4. (Original) The process of claim 1 wherein R^4 and R^5 are represented by the formula:



wherein R^8 to R^{12} are each independently hydrogen, a C_1 to C_{40} alkyl group, a halide, a heteroatom, or a heteroatom containing group containing up to 40 carbon atoms, wherein any two R groups may form a cyclic group and/or a heterocyclic group, and wherein the cyclic groups may be aromatic.

5. (Previously Presented) The process of claim 4 wherein R^8 to R^{12} are independently a methyl, ethyl, propyl or butyl group and X is a substituted aryl group having greater than 10 carbon atoms.
6. (Currently Amended) The process of claim 4 wherein R^8 to R^{12} are methyl groups, and ~~and~~ X is a alkyl substituted with an aryl group.
7. (Original) The process of claim 4 wherein L, Y, and Z are nitrogen, R^1 and R^2 are a hydrocarbon radical, R^3 is hydrogen, and R^6 and R^7 are absent.
8. (Original) The process of claim 1 wherein L and Z are independently nitrogen, L' is a hydrocarbonyl radical, and R^6 and R^7 are absent.
9. (Cancelled)
10. (Original) The process of claim 1 wherein the process is a continuous gas phase process.
11. (Original) The process of claim 1 wherein the process is a continuous slurry phase process.
12. (Original) The process of claim 1 wherein the olefin(s) is ethylene or propylene.

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13. (Original) The process of claim 1 wherein the olefins are ethylene and at least one other monomer having from 3 to 20 carbon atoms.
14. (Original) The process of claim 1 wherein the catalyst system further comprises an activator.
15. - 31. Cancelled